



INSULATION SCHEDULE								
MECHANICAL SYSTEMS TO BE INSULATED	TEMPERATURE RANGE (°F)	PIPE OR DUCT SIZE	INSULATION MATERIAL	INSULATION FORM	INSULATION THICKNESS (INCHES)	R-VALUE (BTU/HR-SF-°F)	VAPOR BARRIER REQUIRED	REMARKS
PIPING SYSTEM								
DOMESTIC COLD WATER	ALL	ALL	FIBERGLASS	PIPE	1	4.2	YES	2,3
CHILLED WATER	35-100	1/2" TO 1-1/2"	FIBERGLASS	PIPE	1	0.2	YES	2,3
CHILLED WATER	35-100	2" TO 16"	FIBERGLASS	PIPE	1.5	6.3	YES	2,3
EQUIPMENT								
CHILLED WATER PUMPS	35-100	N/A	FIBERGLASS	BOARD	1.5	6.3	YES	2,5
CHILLED WATER AIR SEPARATORS	35-100	N/A	FIBERGLASS	BOARD	1.5	6.3	YES	2,4
EXISTING PIPING, DUCTWORK AND EQUIPMENT INSULATION								
EXISTING PIPE AND DUCT INSULATION REPAIR	ALL	ALL						1
REMARKS: 1. EXISTING INSULATION THAT HAS BEEN DAMAGED SHALL BE REPLACED WITH INSULATION TYPE AND THICKNESS TO MATCH EXISTING. 2. INSULATION SHALL HAVE AN ALL-SERVICE-JACKET. 3. PIPE FITTING INSULATION SHALL BE MITERED AND SEALED WITH MASTIC OR COVERED WITH PVC FITTING COVERS. 4. INSULATION SHALL HAVE A CANVAS JACKET. 5. CHILLED WATER PUMPS SHALL BE ENCLOSED IN AN ALUMINUM ENCLOSURE CONSTRUCTED OF REMOVABLE PANELS HELD TOGETHER WITH SNAP-LOCK LATCHES. ENCLOSURE SHALL BE LINED ON THE INSIDE WITH 1.5" OF FIBERGLASS BOARD INSULATION. FILL VOID SPACE IN ENCLOSURE WITH FLEXIBLE FIBERGLASS INSULATION.								

EXHAUST FAN SCHEDULE			
MARK	EF-1	EF-2	EF-4
SERVES	CHILLER ROOM	CHILLER ROOM	
MANUFACTURER	COOK	COOK	
MODEL	16SSC01	24S ACRUB	
SERIAL NO.	1853909520		
TYPE	INLINE	UPBLAST DOMEK	
SITE ELEVATION (FT)	4,840	4,840	
AIR TEMPERATURE (°F)	90	90	
AIRFLOW (ACFM)	4,369	5,000	
EXTERNAL STATIC PRESSURE (INWC)	0.5	0.375	
FAN SPEED (RPM)	1725	660	
MOTOR SIZE (HP)	2	1	
ELECTRICAL CHARACTERISTICS			
VOLTAGE	208	460	
PHASE	3		
FREQUENCY	60	60	
CURB HEIGHT		16	
MOTOR CONTROL		VFD	
WEIGHT (LB)		240	
REMARKS:	1	2,3,4,5,6,7,8,9	
REMARKS: 1. EXISTING EXHAUST FAN TO REMAIN. 2. NEW EXHAUST FAN TO BE PROVIDED AND INSTALLED. 3. PROVIDE 16" HIGH HINGED ROOF CURB WITH DAMPER TRAY. 4. PROVIDE WITH OPPOSED BLADE LOW LEAK DAMPER WITH STAINLESS STEEL JAMB SEALS AND NEOPRENE BLADE SEALS, RUSKIN CD-60 OR EQUAL. 5. PROVIDE WITH 2-POSITION ELECTRIC DAMPER ACTUATOR AND DAMPER END SWITCH. 6. UNIT SHALL BE BELT DRIVEN WITH ADJUSTABLE PITCH SHEAVES. 7. PROVIDE WITH PREMIUM EFFICIENCY INVERTOR DUTY MOTOR. 8. THE INDICATED MANUFACTURER AND ASSOCIATED MODEL NO. AND TYPE OF EQUIPMENT WERE USED FOR DESIGN PURPOSES. OTHER MANUFACTURERS AND MODELS OF EQUIPMENT MEETING THE QUALITY, PERFORMANCE AND SALIENT CHARACTERISTIC REQUIREMENTS OF THE PLANS AND SPECIFICATIONS IN THE OPINION OF THE ENGINEER OF RECORD SHALL BE ACCEPTABLE. 9. PROVIDE AND INSTALL UNDER DEDUCTIVE ALTERNATE BID NO. 1. 10.			

AIR SEPARATOR SCHEDULE		
MARK	AS-1	
MANUFACTURER	BELL & GOSSETT	
MODEL NO.	RL-110	
INTEGRAL STRAINER	NO	
TYPE	TANGENTIAL	
DESIGN FLOW (GPM)	1,520	
CAPACITY (GPM)	3,600	
AIR ELIMINATION EFFICIENCY (%)	97	
FLOW COEFFICIENT (Cv)	2,340	
PRESSURE DROP (FT)	0.732	
LINE SIZE (IN)	10	
SHIPPING WEIGHT (LB)	630	
REMARKS:	1	
REMARKS: 1. EXISTING AIR SEPARATOR TO BE RELOCATED. 2. 3.		

PLATE HEAT EXCHANGER SCHEDULE		
MARK	9-HX-1	
LOCATION	CHILLER PLANT	
MANUFACTURER	MUELLER	
MODEL NO.	AT80MHV-B20	
SERIAL NO.		
TYPE	PLATE & FRAME	
PLATE MATERIAL	304 SS	
CONSTRUCTION/GASKETS	NBR	
SERVICE	FREE COOLING	
HEAT TRANSFER CAPACITY (MBH)	3,000	3,000
SURFACE AREA (SF)	1,293	1,293
NUMBER OF PLATES	144	144
DESIGN PRESSURE (PSIG)	150	
HOT SIDE DATA:		
FLOW (GPM)	600	1140
ENTERING WATER TEMP. (°F)	55	50.26
LEAVING WATER TEMP. (°F)	45	45
MAX. WATER PRES. DROP (FT)	6	21.4
FOULING FACTOR	0.00025	0.00025
CONNECTION SIZE (IN)	6	
COLD SIDE DATA:		
FLOW (GPM)	1140	1140
ENTERING WATER TEMP. (°F)	43	41.8
LEAVING WATER TEMP. (°F)	48.3	47.06
MAX. WATER PRES. DROP (FT)	20	20.4
FOULING FACTOR	0.0005	0.0005
CONNECTION SIZE (IN)	6	
DIMENSIONS		
LENGTH (IN)	71	
HEIGHT (IN)	85	
WIDTH (IN)	36.25	
OPERATING WEIGHT (LB)	6,753	
REMARKS	1,2,3	
REMARKS: 1. EXISTING HEAT EXCHANGER TO BE RELOCATED. 2. EXISTING HEAT EXCHANGER TO BE DISASSEMBLED AND CLEANED. 3. REVISED HEAT EXCHANGER PERFORMANCE. 4. 5.		

EXPANSION TANK SCHEDULE		
MARK	9-ET1	
MANUFACTURER	BELL & GOSSETT	
MODEL NO.	B-400	
TYPE	BLADDER	
SYSTEM SERVED	CHILLED WATER	
SYSTEM CONTENT (GAL.)	7,800	
MIN. FILL PRESSURE (PSIG)	55	
MAX. OPERATING PRESSURE (PSIG)	125	
MAX. SYSTEM OPERATING PRESSURE (PSIG)	75	
AVERAGE WATER TEMP. (°F)	50	
PRECHARGE PRESSURE (PSIG)	50	
TANK VOLUME (GAL.)	106	
ACCEPTANCE VOLUME (GAL)	106	
DIMENSIONAL DATA		
TANK DIAMETER (IN.)	24	
TANK HEIGHT (IN.)	65	
SHIPPING WEIGHT (LB)	309	
MAXIMUM OPERATING WEIGHT (LB)	1,184	
REMARKS:	1	
REMARKS: 1. EXISTING EXPANSION TANK TO REMAIN. 2. 3.		

Revisions

Date

SCHENDT

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Drawing Title
MECHANICAL SCHEDULES

Approved: Medical Center Director

Approved: Assistant Administrator, Engineering Department

Project Title
REPLACEMENT OF ABSORPTION CHILLER

Location
2121 NORTH AVENUE
GRAND JUNCTION, CO 81505

Date
03/13/2013

Checked
TBS

Drawn
DJS

Project Number
VA259-12-C-0219

Building Number
BLDG 9

Drawing Number
H7
Dwg. 3 of 16

OFFICE OF FACILITIES MANAGEMENT

Department of Veterans Affairs